42. The compound according to claim 38, wherein tryptophan in position 31 is substituted by an oxidation-resistant amino acid.

43. The compound according to claim 38, wherein at least one of the amino acids specified for the respective position is substituted by the following amino acid:

Y for V in position 16;

K for S in position 18;

D for E in position 21;

S for G in position 22;

R for Q in position 23;

R for A in position 24; and

Q for K in position 26.

44. The compound according to claim 38, wherein at least one of the amino acids specified for the respective position is substituted by the following amino acid:

a neutral amino acid for A in position 8;

an acidic or neutral amino acid for E in position 9;

a neutral amino acid for G in position 10; and

an acidic amino acid for D in position 15.

45. The compound according to claim 44, wherein A in position 8 is substituted by an amino acid selected from the group consisting of S, S †, G, C, C †, Sar, A †, beta-Ala and Aib.

46. The compound according to claim 38, wherein the histidine amino acid in position 7 is substituted by a neutral amino acid or the D or N acetylated or alkylated form of histidine and wherein for the specified substitutions the amino acids optionally exist in the D or L form and the amino acid substituted in position 7 optionally exists in the N acetylated or N alkylated form.

47. The compound according to claim 38, wherein the lysine amino acids in positions 26 and/or 34 are substituted by K †, G, S, A, L, I, Q, M, R, and R †.

48. The compound according to claim 38, wherein the tryptophan amino acid in position 31 is substituted by F, V, L, I, A, and Y.

49. The compound according to claim 38, wherein optionally at least one substitution of S for G in position 22, of R in positions 23 and 24 for Q and A, and of Q for K in position 26 is combined or said substitutions are additionally combined with a substitution of D for E in position 21.

50. The compound according to claim 38, wherein alanine in position 8 is substituted by a neutral amino acid from the group of S, S †, G, C, C †, Sar, A †, beta-Ala, and Aib and wherein the acidic or neutral amino acid substituted for glutamic acid in position 9 is derived from the group of E †, D, D †, Cay, T, T †, N, N †, Q, Q †, Cit, MSO, and acetyl-K and wherein the neutral amino acid substituted fro glycine in position 10 is derived from the group of S, S †, Y, Y †, T, T †, N, N †, Q, Q †, Cit, MSO, acetyl-K, F, and F †.

51. The compound according to claim 38, wherein the amino acid substituted for histidine in position 7 is derived from the group of H †, Y, Y †, F, F †, R, R †, Orn, Orn †, M, M †, N-formyl-H, N-formyl-H †, N-acetyl-H, N-acetyl-H †, N-isopropyl-H, N-isopropyl-H †, N-acetyl-K; N-acetyl-K †, P, and P †.

52. The compound according to claim 38, wherein a peptide has an increased resistance to degradation in plasma as compared to GLP-1(7-34), GLP-1(7-35), GLP-1(7-36), or GLP-1(7-37) or the C-terminal amide and/or has at least one of the following modifications:

(a) the substitution of histidine in position 7 by the D form of a neutral or acidic amino acid for the D form of histidine;

(b) the substitution of alanine in position 8 by the D form of an amino acid, and

(c) the substitution of histidine in position 7 by an N acylated (1 - 6 C) or N alkylated (1 - 6 C) form of an alternative amino acid or histidine.

53. The compound according to claim 52, wherein the histidine in position 7 is substituted by an amino acid from the group of P †, D †, E †, N †, Q †, L †, V †, I † and H †.

54. The compound according to claim 52, wherein the D amino acid in position 8 is substituted by an amino acid from the group of P †, V †, L †, I † and A †.

55. The compound according to claim 52, wherein the D amino acid in position 8 is substituted by an alkylated or acetylated amino acid from the group of P, D, E, N, Q, V, L, I, K, and H.

56. The compound according to claim 38, wherein the compound exists in a phosphorylated, acetylated, and/or glycosylated form.

57. A pharmaceutical containing a composition according to claim 38 for the therapy of insulin-dependent diabetes mellitus, insulin-independent diabetes mellitus, MODY (maturity-onset diabetes in young people), for the treatment of secondary hyperglycaemias in connection with pancreatic diseases (chronic pancreatitis, pancreatectomy, haemochromatosis) or endocrine diseases (acromegaly, Cushing's syndrome, phaeochromocytoma, or hyperthyreosis), for the treatment of hyperglycaemias induced by drugs (benzathiadiazine salidiuretics, diazoxide, or glucocorticoids), for the therapy of pathologic glucose tolerance, for the therapy of hyperglycaemias, for the therapy of dyslipoproteinaemias, for the therapy of obesity, for the therapy of hyperlipoproteinaemias and/or hypotonias.

58. The pharmaceutical according to claim 57, characterized in that said pharmaceutical exists in a release form by which the release is attained in a long-lasting or pulsatile manner.

59. The pharmaceutical according to claim 57, characterized in that said pharmaceutical is suitable for subcutaneous, intravenous, peroral, intramuscular, or transpulmonary administration.

ADD B2

REMARKS

Claims 38-59, submitted hereby, and pending. Support for claims 38-59 can be found in original claims 28-30, 6-9, 14, 10-20, 22, and 31-33, respectively.